

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/568,027 : PATENT APPLICATION

In re application of: :  
REN JUDKINS

Filed: July 31, 2006 : **METHOD AND APPARATUS FOR  
MAKING CELLULAR MATERIAL**

Examiner: Jeff H. Aftergut : **USING SLOW CURE ADHESIVES**

Group Art Unit: 1791 :

Confirmation No.: 2945 :

Attorney Docket No.: 060068 :

**REQUEST FOR RECONSIDERATION**

Pittsburgh, Pennsylvania 15219  
June 21, 2010

Commissioner for Patents  
P. O. Box 1450  
Alexandria, Virginia 22313-1450

Commissioner:

This is in response to the Office Action dated February 19, 2010. A request for a one-month extension of time and the required fee are being filed herewith. The Declaration of John Rupel is also being filed with this response.

Claims 1-8 are pending in the application and have been rejected under 35 U.S.C. § 103(a) based upon the combination of United States Patent No. 4,631,108 to Colson in view of United States Patent No. 4,838,972 to Daamen et al., United States Published Application No. 2002/0014296 to Corey and United States Patent No. 4,732,630 to Schnebly.

Colson '108 discloses a method of making a cellular structure in which a strip of elongated film material is wrapped on a collector. Figures 1, 12 and 13 show that the collector may have two, three or four flat surfaces with a curved surface between each adjacent flat surface. A glue applicator applies glue to the elongated film material as it is applied to the collector such that adjacent surfaces of the material will be bonded together. After many windings the material is cut from the collector. The material which has been applied to the flat surfaces is kept for use as a window covering. The material that is collected on the curved surfaces is discarded. There is no teaching or suggestion in Colson to use a slow cure adhesive or to remove a cellular structure having a curvature from the collector and place that structure on a flat surface where the adhesive fully cures and the curvature flattens. Indeed, Colson teaches against winding onto curved surfaces. See the Declaration of John Rupel at page 2-3.

Daamen et al. disclose a machine for making filters from hollow material that is wrapped on a circular collector. Daamen was cited only to show that it was known to wind tubular material around a circular mandrel. Daamen et al. also do not teach or suggest to use a slow cure adhesive or to remove a cellular structure having a curvature from the collector and place that structure on a flat surface where the adhesive fully cures and the curvature flattens.

Schnebly discloses a method of making a cellular structure in which a strip of elongated material is wrapped on a collector. Figure 2 of this reference shows lines of adhesive being applied to the material before the material is wound on the wheel. Column 5, lines 28-32, say that the lines of adhesive are chilled "into a dry, solid, non-sticky state." This teaching means that when the material is wound on the rack and then removed from the rack, adjacent surfaces are NOT bonded together. This is critical to the process disclosed by Schnebly. When the

material is wound on the wheel as shown in Figure 4 the layers are curved. The patent teaches to make a radial cut through the material on the wheel and lay the material on a flat surface.

Because the opposing surfaces are not bonded to one another overlaying layers move relative to one another such that the resulting stack, when placed on a flat surface, is not curved but lays flat and is trapezoidal in shape as shown in Figure 7. Schnebly teaches that the stack must be oven cured to bond the layers of material together. This is shown in Figure 10 and described at column 9, line 61, through column 10, line 60. At column 10, lines 14- 24, the reference says that the temperature and pressure applied in the oven for a sufficient period of time "permit the lines of adhesive 18 between the layers 74 to activate and bond with each other so as to adhere adjacent layers of tubular materials 74 to each other."

Corey's published application discloses a method of making a fabric Venetian blind in which an elongated strip of material is helically wound around a pair of non-rotating spaced apart spars. The Examiner has cited paragraph 0083 of that published application as teaching the use of either a polyester or polyurethane adhesive in the making of a Venetian blind. He also says that this paragraph discloses the use of a slow cure adhesive material used in the process of making a Venetian blind. The Examiner then says, "One viewing the reference to Corey '296 would have been motivated to employ a moisture cure adhesive material in the process of Colson '108 as such would have enabled one to set the adhesive material without having to employ heat to cure the same and would have provided an adhesive material which was more flexible and provided greater bond strength than other hot melt adhesives."

Applicants respectfully disagree with the Examiner's reading of Corey '296. In paragraph 0083 Corey specifically says "hot melt adhesives are preferred," points out several advantages of

this type of adhesive, then goes on to mention moisture-cure polyurethane hot applied glue but points out that the benefits of this adhesive, "must be considered in light of slower curing and associated bleed-through tendencies." One skilled in the art would read this sentence as a teaching away from using moisture cure adhesives because slow curing and bleed through are considered to be undesirable. Bleed-through is a situation in which adhesive migrates through one or more layers of material resulting in several layers of material being bonded together. Slow curing extends the time for the material to fully set such that the material could shift causing mis-alignment of adjacent layers. See Declaration of John Rupel at pages 5-6.

The teaching of the cited references as a whole is that one can create a honeycomb structure by winding tubular material about a collector. If the material is wound on a collector having flat surfaces as in Colson one can bond the adjacent layers together but must discard any material that is bonded over a curved surface. Alternatively, one could use a heat activated adhesive and wind the material on a flat, round or curved wheel such that adjacent layers are not bonded together on the collector. Instead, the material is cut from the collector and placed in an oven to activate the adhesive as taught by Schnebley. There is no teaching or suggestion in the art to create a honeycomb by winding tubular material on a collector having curved surfaces using an adhesive that will partially cure while that material is on the collector and finish curing after the material has been cut from the collector and placed on a flat surface.

In the process of Applicants' claim 1 the adhesive must bond together overlying surfaces of the elongated tubular structure forming a cellular structure on the collector. Claim 1 further requires that the cellular structure have a curvature when that structure is removed from the collector and that the curvature flattens while the cellular structure is on a flat surface. None of

this is taught or suggested by Schnebly. One skilled in the art reading Schnebly would understand that the overlaying surfaces of material should not be bonded together while the material is on the wheel because the resulting structure would be curved. A curved structure is not desirable because that structure cannot be made into an acceptable window covering. Applicants have disclosed a method and apparatus that operate in a manner contrary to the teaching of Schnebly.

Even if one accepts the Examiner's reading of the cited references claim 1 is patentable over those references. This is so because none of the references teach or suggest making a cellular structure on a collector in which adjacent surfaces are bonded together by a slow cure adhesive, that the cellular structure has a curvature when that structure is removed from the collector and that the curvature flattens while the cellular structure is on a flat surface.

Accordingly, reconsideration and allowance of all pending claims are respectfully requested.

June 21, 2010

Respectfully submitted,

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